

## Tips for GP trainees working in trauma and orthopaedics

### INTRODUCTION

Be prepared to learn! Trauma and orthopaedics is a huge subject that is only sparsely taught at medical school (Box 1). Time on-call in orthopaedics can be stressful due to a high demand for decisions on the many different referrals to the specialty. We present brief guidance on how to avoid major pitfalls and get the most benefit from your time in this specialty as a GP trainee.

1. The most common presentation to the majority of trauma departments is a fractured neck or femur in older people. These patients are potentially the most unwell and frail group in the hospital and you must take care to ensure they are seen early, fully investigated, and have sufficient intravenous fluids and analgesia. Patients who have this injury under the age of 65 years should be urgently referred to a senior as they may require emergency fixation.
2. Remind yourself how to describe fractures before starting, try using the following order:
  - open/closed fracture (avoid compound);
  - the location of the fracture in the bone (for example, midshaft/proximal/distal);
  - which bone and what side;
  - describe the appearance of the fracture (transverse/oblique/spiral/multifragment ory); and
  - describe displacement in terms of angulation (the angle the distal fragment makes with the proximal) and translation (the percentage that the bones have slipped off one another, [0–100% and off-ended]).
3. Go and see some surgery! Your department will thank you for being able to consent patients for operations that they are likely to receive. To do this you should have a full appreciation of the risks and benefits of common procedures and be able to describe what

is going to happen.

4. Ensure that each injury you see has been appropriately visualised on X-rays:
  - two views are essential, usually antero-posterior (AP) and lateral;
  - patients in plaster should have views in plaster regardless of whether there has been further manipulation;
  - to assess if a shoulder is in joint then a third view is necessary, usually a y-view;
  - a painful hip in a child should be imaged with both an AP and frog lateral view; and
  - the cervical spine should be visualised with AP and lateral as well as open mouth peg views.
5. Go to clinic. Elective clinic and, to a lesser extent, fracture clinic is where the many patients you refer over your career with musculoskeletal problems will go. Spending some time in each clinic will give you a valuable understanding of assessment of these problems.
6. Learn how to document neurovascular status. Most trainees' knowledge of the course of peripheral nerves is hazy and should be brushed up. Where you are unsure, ask your senior which nerves to test and how then to document your findings. All peripheral injuries should have distal sensory and motor function as well as circulatory function (capillary refill time and specific pulses) documented. This is essential both for deciding management and from a medicolegal perspective.
7. Be familiar with assessing patients for compartment syndrome. Do not confuse these with features of an ischaemic limb, as these symptoms mostly occur far too late (such as paralysis and pulselessness). Appropriate early features to look for are pain out of proportion to the injury despite analgesia; pain on passive movement of toes (or fingers in the upper limb); and paraesthesiae. If you are left in any doubt after assessing the patient then ask a

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**Submitted:** 6 September 2010; **final acceptance:** 4 January 2011.

©British Journal of General Practice 2011; 61: 532–533.

**DOI:** 10.3399/bjgp11X588619

## Box 1. Glossary of terms

Orthopaedics, like many medical specialties, suffers from jargon so we present a beginners guide to some of the common terms used:

<b>NOF</b>	Neck of femur.
<b>SUFE</b>	Slipped upper femoral epiphysis.
<b>ORIF</b>	Open reduction and internal fixation. This is an operation to fix a fracture where a cut is made in the skin, the bone ends reduced directly (OR) and then held in place using a device such as a plate and screws (IF).
<b>K-wire</b>	Kirschner wire. A pointed wire which can be passed through the skin to hold a fracture in position. In wrist fractures this often prevents the need for ORIF.
<b>MUA</b>	Manipulation under anaesthetic. The patient is anaesthetised and then the fracture is reduced usually under X-ray guidance. This may prevent the need for K-wiring or ORIF.
<b>DHS</b>	Dynamic hip screw.
<b>IM nail</b>	Intra-medullary nail.
<b>POP</b>	Plaster of Paris.
<b>Non-union</b>	Bones have not healed.
<b>Mal-union</b>	Bones have healed in an incorrect position.

## Box 2. Essential steps when dealing with open fractures

- assess the patient using an ABC approach, document and treat any other injuries;
- take a photo of the fracture;
- ensure the patient has adequate tetanus cover;
- give intravenous antibiotics according to local protocol;
- document the distal neurovascular status of the limb;
- apply saline-soaked dressing and splint the limb;
- take a series of X-rays; and
- ring your senior once these are well-underway. (They will prefer it if there is an X-ray to look at).

### Provenance

Freely submitted; externally peer reviewed.

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senior to assess the patient.

8. Cauda equina syndrome is an emergency that must not be missed. There should be evidence of saddle anaesthesia, reduced anal tone, and altered bladder or bowel function. Where you are presented with abnormal findings during your examination then discuss the case with your registrar and consider imaging. Prioritise these patients highly, go and see them early, and you may prevent lifelong urinary or faecal incontinence in a young person. Careful history taking is crucial in the assessment of back pain and it is worth being well-versed in 'red flag' symptoms. Discuss any concerns you have with your senior.
9. All obvious fractures should be splinted and the patient given adequate analgesia before any X-rays are taken. Your patients will thank you for this, these simple interventions are too often forgotten in the haste to get an X-ray.
10. Open fractures should be washed out and debrided in theatre at the earliest possible stage. When faced with an open fracture make sure you follow the essential steps as set out in Box 2.
11. Many things will be referred to you erroneously. Open skull fractures, fractured jaws, and fractured penises are neither trauma nor orthopaedics, do not accept them!
12. Children with painful joints need careful assessment. You will speed their assessment by asking if the child could have Ametop® (Smith & Nephew Healthcare Ltd) applied as early as possible and blood taken to help exclude septic arthritis. Be aware that pain in the knee may be coming from the hip and examine both carefully.
13. Ensure that all patients admitted have their regular medications properly prescribed before leaving that emergency department, and leave clear instructions in the notes about what is to be given. Most patients admitted under you will have been made 'nil-by-mouth' from the moment the ambulance arrives. This state is often unnecessary and patients should not be prevented from having their medication. Groups particularly at risk are patients on antiepileptic drugs, Parkinson's drugs, antianginals, diuretics, or insulin.
14. Learn how to aspirate knees, ankles, shoulders, wrists, and elbows. While this will be useful for diagnosis in patients with possible septic arthritis, it will be good practice for joint injections in the surgery for many years to come.
15. For injuries to hands and wrists always determine the dominant hand and employment/activities that involve the hands.
16. Keep a clear list of the patients you have been referred during your on-call, not just the ones you have accepted. When you need to ask someone about a referral, take full details of the patient and the referrer so you can get back in contact when necessary.
17. If you are concerned that a plaster cast is too tight then split it using a plaster saw or plaster scissors. Ensure that you have also cut all layers of cotton wool as these often hold unexpected amounts of tension.
18. Do not aspirate prosthetic joints in the emergency department and do not start these patients on antibiotics without discussion with the on-call team. If the joint is infected then antibiotic therapy should be planned in discussion with the microbiologists and after aspiration with or without tissue samples taken in theatre.
19. Patients who require intravenous (IV) antibiotics for any extended duration should have long-term access such as a peripherally inserted central catheter line arranged at the earliest possible juncture. This will prevent both painful and increasingly difficult attempts at IV access for your patient and also will save you large amounts of time.
20. Patients with femoral shaft fractures or subtrochanteric fractures will be considerably more comfortable once they are placed in skin traction. '5 lbs please' is usually the correct answer to the question of 'how much?'.

As an orthopaedic SHO, regardless of your interest, when on-call you invariably are not able to make the definitive call as to the best course of action. This is perfectly normal. Good documentation and asking for help is the way forward. Make your time in trauma and orthopaedics work for you and your training. The understanding of how to fix each fracture is broadly only useful within hospital orthopaedics and you may never need it again. The understanding and assessment of joint problems, back pain, soft tissue injuries, as well as practical procedures such as joint aspiration may be invaluable in your career and will be useful on a daily basis. Take in as much as you can!